No. 8500022

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

King Grain U.S.A., Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'KG30'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington, D.C. *this* 28th *day of* February *in the year of our Lord one thousand nine hundred and* eighty-six.

Attest:

Kenneth A. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Acting Secretary of Agriculture

APPROVAL EXPIRES 4-30-85

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION

FORM APPROVED: OMB NO. 0581-0055

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION	3. VARIETY NAME
King Grain U.S.A., Inc.	KG2114	KG30

4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code)	5. PHONE (Include area code)	FOR OFFICIAL USE ONLY
719 Center St., East Aurora, N.Y. 14052, U.S.A.	(716)655-1310	PVPO NUMBER 8500022

6. GENUS AND SPECIES NAME	7. FAMILY NAME (Botanical)	FILING DATE / TIME
Glycine max	Leguminosae	12/3/84 2:30 ☐ A.M. ☒ P.M.

8. KIND NAME	9. DATE OF DETERMINATION	FEES RECEIVED
Soybeans	1979	AMOUNT FOR FILING: $ 1,800 DATE: 12/3/84 AMOUNT FOR CERTIFICATE: $ DATE:

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*
Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION	12. DATE OF INCORPORATION
New York	December 10, 1982.

13. NAME AND ADDRESS OF APPLICANT REPRESENATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Bernard M. Leese, Jr.,
UNDERWOOD AGRIBUSINESS ASSOC.,
210 Kinblewick Dr.,
Silver Spring, MD 20904, U.S.A.
Telephone # (301)622-3757
Telex: 296415

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. ☒ Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
b. ☒ Exhibit B, Novelty Statement
c. ☒ Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*
d. ☐ Exhibit D, Additional Description of the Variety

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act.)* ☐ Yes *(If "Yes," answer items 16 and 17 below)* ☒ No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ Yes ☒ No	☐ Foundation ☐ Registered ☐ Certified

18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ Yes *(If "Yes," give date)*
☒ No

19. HAS THE VARIETY BEEN OFFERED FOR SALE OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
☐ Yes *(If "Yes," give names of countries and dates)*
☒ No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT	DATE
King Grain U.S.A., Inc. per [signature]	October 22, 1984.
SIGNATURE OF APPLICANT	DATE

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EXHIBIT 'A'

Origin and Breeding History of the Variety

1) KG30 (KG2114) was developed by King Grain Limited, Chatham, Ontario. The variety originated from a hand-pollinated cross of Maple Arrow x SA198 made in 1977. The F_1, F_2 and F_5 generations were grown in Ontario and the F_3 and F_4 grown in Belize, Central America. Early generations were advanced using a modified single seed descent technique. KG30 was F_5 derived and was yield tested in 1982-83.

2) In 1979, single plants of the variety were reselected and grown in plant rows in 1980. Only the rows conforming to a standard were harvested and bulked. The genetic make-up of the variety was uniform and stable in the eighth generation.

3) KG30 has been in yield trials since 1982. See attached.

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KING 2114

ONTARIO SOYBEAN VARIETY TEST
2600 H.U.
2 YEAR MEANS

VARIETY	YR/LOC	YIELD	RK	100 SEED WT(g)
KING 2114	82/OT	2560	8	14.6
KING 2114	82/KC	3576	3	13.9
KING 2114	82/EL	2825	9	10.8
KING 2114	82/BR	2439	9	11.9
KING 2114	83/OT	2703	7	16.0
KING 2114	83/KC	2028	19	14.0
KING 2114	83/EL	2556	4	17.0
KING 2114	83/BR	3070	11	20.5
KING 2114	PRIVATE	3466		
KING 2114	MEAN	2803		14.8
MAPLE ARROW	82/OT	2840	2	19.3
MAPLE ARROW	82/KC	3264	10	17.0
MAPLE ARROW	82/EL	2885	6	14.7
MAPLE ARROW	82/BR	2614	3	15.1
MAPLE ARROW	83/OT	2328	21	17.0
MAPLE ARROW	83/KC	1557	28	16.0
MAPLE ARROW	83/EL	2311	18	20.3
MAPLE ARROW	83/BR	3275	4	23.0
MAPLE ARROW	PRIVATE	3516		
MAPLE ARROW (CHECK)	MEAN	2732		17.8

PHYTOPHTHORA FIELD TOLERANCE (%PLANT LOSS)

	1982	1983	MEAN
KING 2114	18.0	23.0	20.5
Amsoy 71	34.5	45.0	38.0
Maple Arrow	15.0	28.0	21.5

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Western Soybean Trials
1982-83 Summary.

Variety / Location	Yield (kg/ha)	Plant Height (cm)
KG2114		
Winnipeg	1672	80
Brandon	2517	91
Lethbridge	3609	67
Brooks	3032	66
$\bar{X}$	2708	76
Maple Arrow		
Winnipeg	1403	77
Brandon	1946	88
Lethbridge	2300	55
Brooks	2252	59
$\bar{X}$	1975	70
McCall		
Winnipeg.	1762	80
Brandon	2316	87
Lethbridge	3293	72
Brooks	2373	69
$\bar{X}$	2436	77

Winnipeg - Dr. P. McVetty, Plant Science Dept., University of Manitoba.

Brandon - Dr. W.N. Migus, Research Station, Agriculture Canada.

Lethbridge - Dr. H. Muendel, Research Station, Agriculture Canada.

Brooks - Dr. R. Gaudiel, Hort. Research Station, Alberta Dept. of Agriculture

EXHIBIT 'B'

Novelty Statement

Novelty is based on the unique combination of the following characteristics:

'KG30' is most similar to 'Maple Arrow' except KG30 is three grams per 100 seeds lighter, six centimeters shorter, 2.5% higher yielding and has 1% less Phytophthora field tolerance than Maple Arrow.

1982-83 Data Summary

Entry	100 Seed Wt. (gm)	Plant Ht.(cm)	Yield (kg/ha)	Phytophthora Tolerance (% loss)
KG30 (KG2114)	14.8	76	2803	20.5
Maple Arrow	17.8	70	2732	21.5

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (Glycine max L.)

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
King Grain U.S.A., Inc.	KG2114	KG30

ADDRESS *(Street and No., or R.F.D. No., City, State, and Zip Code)*

719 Center St.,
East Aurora, N.Y. 14052, U.S.A.

FOR OFFICIAL USE ONLY
PVPO NUMBER
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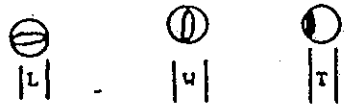
Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g., [0][9]). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:

[2]



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

[1] 1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other *(Specify)* _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

[1] 1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ 4. SEED SIZE: (Mature Seed)

[1][5] Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

[3] 1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other *(Specify)*

★ 6. COTYLEDON COLOR: (Mature Seed)

[1] 1 = Yellow 2 = Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

[X] 2 RFS 3/26/85
1 = Low 2 = High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

[1] 1 = Type A ($SP1^a$) 2 = Type B ($SP1^b$)

★ 9. HYPOCOTYL COLOR:

[4] 1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')
4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

[3] 4 RFS 3/26/85
1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other *(Specify)* ELLIPTICAL

11. LEAFLET SIZE:

[2] 1 = Small ('Amsoy 71'; 'A5312') 2 = Medium ('Corsoy 79'; 'Gasoy 17') 3 = Large ('Crawford'; 'Tracy')

12. LEAF COLOR:

[2] 1 = Light Green ('Weber'; 'York') 2 = Medium Green ('Corsoy 79'; 'Braxton') 3 = Dark Green ('Gnome'; 'Tracy')

★ **13. FLOWER COLOR:**

[2] 1 = White 2 = Purple 3 = White with purple throat

★ **14. POD COLOR:**

[2] 1 = Tan 2 = Brown 3 = Black

★ **15. PLANT PUBESCENCE COLOR:**

[2] 1 = Gray 2 = Brown (Tawny)

16. PLANT TYPES:

[1] 1 = Slender ('Essex'; 'Amsoy 71') 2 = Intermediate ('Amcor'; 'Braxton') 3 = Bushy ('Gnome'; 'Govan')

★ **17. PLANT HABIT:**

[3] 1 = Determinate ('Gnome'; 'Braxton') 2 = Semi-Determinate ('Will') 3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

★ **18. MATURITY GROUP:**

[0][2] 1 = 000 2 = 00 3 = 0 4 = I 5 = II 6 = III 7 = IV 8 = V 9 = VI 10 = VII 11 = VIII 12 = IX 13 = X

★ **19. DISEASE REACTION:** (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

★ [1] Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

★ [1] Bacterial Blight (*Pseudomonas glycinea*)

★ [1] Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

★ [1] Brown Spot (*Septoria glycines*)

Frogeye Leaf Spot (*Cercospora sojina*)

★ [1] Race 1 [1] Race 2 [1] Race 3 [1] Race 4 [1] Race 5 [ ] Other (Specify) _____

[ ] Target Spot (*Corynespora cassiicola*)

[ ] Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)

[ ] Powdery Mildew (*Microsphaera diffusa*)

★ [1] Brown Stem Rot (*Cephalosporium gregatum*)

[ ] Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

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19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

★ [1] Pod and Stem Blight *(Diaporthe phaseolorum var; sojae)*

[2] Purple Seed Stain *(Cercospora kikuchii)*

[ ] Rhizoctonia Root Rot *(Rhizoctonia solani)*

Phytophthora Rot *(Phytophthora megasperma var. sojae)*

★ [1] Race 1 [1] Race 2 [1] Race 3 [1] Race 4 [1] Race 5 [1] Race 6 [1] Race 7

[1] Race 8 [1] Race 9 [ ] Other *(Specify)* _____

VIRAL DISEASES:

[ ] Bud Blight (Tobacco Ringspot Virus)

[ ] Yellow Mosaic (Bean Yellow Mosaic Virus)

★ [1] Cowpea Mosaic (Cowpea Chlorotic Virus)

[ ] Pod Mottle (Bean Pod Mottle Virus)

★ [1] Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

Soybean Cyst Nematode *(Heterodera glycines)*

★ [ ] Race 1 [1] Race 2 [1] Race 3 [1] Race 4 [1] Other *(Specify)* _____

[ ] Lance Nematode *(Hoplolaimus Colombus)*

★ [1] Southern Root Knot Nematode *(Meloidogyne incognita)*

★ [1] Northern Root Knot Nematode *(Meloidogyne Hapla)*

[ ] Peanut Root Knot Nematode *(Meloidogyne arenaria)*

[ ] Reniform Nematode *(Rotylenchulus reniformis)*

[ ] OTHER DISEASE NOT ON FORM *(Specify)*: _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

★ [1] Iron Chlorosis on Calcareous Soil

[ ] Other *(Specify)* _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

[ ] Mexican Bean Beetle *(Epilachna varivestis)*

[ ] Potato Leaf Hopper *(Empoasca fabae)*

[ ] Other *(Specify)* _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	Maple Arrow	Seed Coat Luster	Maple Arrow
Leaf Shape	"	Seed Size	"
Leaf Color	"	Seed Shape	"
Leaf Size	"	Seedling Pigmentation	"

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23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/ POD
				CM Width	CM Length	% Protein	% Oil		
Submitted	114	1.5	76	4.0	9	40.9	19.6	14.8	2.8
Maple Arrow (Name of Similar Variety)	114	1.5	70	6.5	11	40.6	19.3	17.8	2.7

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A_2 in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

EXHIBIT E

STATMENT OF THE BASIS OF THE APPLICANT'S OWNERSHIP

SOYBEAN: 'KG 30' PV No. 8500022.

KING GRAIN, U.S.A., INC.

July 1,1985

The variety for which Plant Variety Protection is sought was developed by Dr. N.R.Bradner an employee of King Grain. By agreement between the stated parties, all rights to the soybean variety 'KG30' were assigned to King Grain and no rights to 'KG30' are retained by the employee.